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## THE SCIOMYZIDAE OF ALASKA

(DIPTERA)

BY GEORGE C. STEYSKAL, *Grosse Ile, Mich.*

During the last seven or eight years, and especially since 1947, much information and many specimens of Alaskan Diptera have been accumulated. The chief results of this work are cited in the appended bibliography. It is as a continuation of these contributions that the present report is submitted. Material gathered by Clifford O. Berg as a by-product of several seasons' work with the U. S. Public Health Service forms the largest basis of this report, but some important material belonging to the U. S. National Museum has been examined through the courtesy of Curtis W. Sabrosky. To Berg and Sabrosky I wish to extend sincere thanks for the privilege of working on the material.

Besides the material already deposited in the U. S. National Museum, most of the material taken by Berg and W. C. Frohne will ultimately also be deposited there. A few duplicates and some paratypes, as listed below, remain in my collection.

Previous records of Sciomyzidae (*s. s.*) from Alaska have been very scanty. Coquillett recorded *Pteromicra glabricula* (Fallén) and *Tetanocera plumosa* Loew, Melander added *T.*

*triangularis* Loew and *T. vicina* Macquart and I added *Sepe-don borealis* Steyskal and *S. spinipes americana* Steyskal a total of six species.

Thirty species are now listed, of which three (*Hedroncra connera*, *Renocera bergi*, and *Tetanocera bergi*) are described as new species, and of which one (*Sciomyza dryomyzina* Zetterstedt) is a previously known palaearctic species now reported for the first time from the nearctic region. Thirteen of the total are holarectic in distribution.

In this paper the following abbreviations of names of collectors and institutions have been used: CNC—Canadian National Collection; COB—Clifford O. Berg; DPW—D. P. Whilans; GCS—George C. Steyskal; JCC—J. C. Chamberlin; JMA—J. M. Aldrich; JRV—J. R. Vockeroth; M-S—Marks and Sommerman; RHW—R. H. Washburn; RIS—Reece I. Sailer; USNM—U. S. National Museum; WCF—W. C. Frohne.

#### Subfamily **SCIOMYZINAE**

##### Genus **Pherbellia** Robineau-Desvoidy

I am including under this name the preoccupied genus *Melina* and a number of other names, the proper application of which must await a satisfactory classification and nomenclatural research. Besides the species here listed, a few others have been taken, satisfactory determination of which is not possible at present.

##### **Pherbellia albocostata** (Fallén)

Dipt. Sueciae, Sciomyz.: 12, 1820 (*Sciomyza*); Cresson, Trans. Amer. Entom. Soc. 46: 45, 1920 (*Melina*); Melander, Ann. Entom. Soc. Amer. 13: 314, 1920 (*Melina*).

Lower Yukon River (Holy Cross), 16 June 1951 (COB). A species of holarectic distribution.

##### **Pherbellia fuscipes** (Macquart)

Suites à Buffon II: 407, 1835 (*Sciomyza*); Melander, Ann. Entom. Soc. Amer. 13:314, 1920 (*Melina*).

Fairbanks, 2 July 1921 (JMA) USNM. Holarectic in distribution.

##### **Pherbellia griseola** (Fallén)

(Fig. 1)

Dipt. Sueciae, Sciomyz.: 14, 1820 (*Sciomyza*); Melander, Ann. Entom. Soc. Amer. 13:314, 1920 (*Melina*).

Anchorage, 27 July 1948 (RIS) USNM; Glenn Highway, mile 154, nуска, rotary trap, 27, 29, 30 April, 7, 10, 11, 12, 17, 18, 20, 27, 31 May, 6, 7 June 1944, 14, 19, 21 May 1945, 31 ♂♂, 33 ♀♀ (JCC) USNM. The greatest number (10 ♂♂, 22 ♀♀) were taken on 10 May 1944.

This is a holarctic species, of which the only previous North American record is that of Melander, citing Montana and Wyoming as localities. A figure of the male terminalia of one of the Matanuska specimens is presented to facilitate eventual check against palaearctic material.

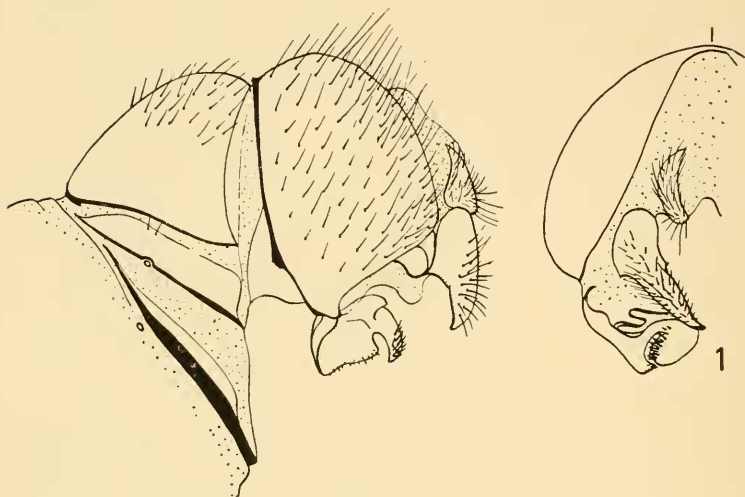


Fig. 1, *Pherbellia griseola* (Fallén) (Matanuska, Alaska), ♂ terminalia.

#### *Pherbellia nana* (Fallén)

Dipt. Sueciae, Sciomyz.: 15, 1820 (*Sciomyza*); Cresson, Trans. Amer. Entom. Soc. 46:47, 1920 (*Melina*, subgenus *Graphomyzina*); Melander, Ann. Entom. Soc. Amer. 13:315, 1920 (*Melina*).

Anchorage, 27 July 1948 (RIS) USNM; Glenn Highway, mile 154, 23 August 1948 (Morris) USNM; Matanuska Valley, 1 July 1950, 2, 14 August 1952 (COB). Widespread and abundant in holarctic regions; in North America south to Mexico City.

#### *Pherbellia schoenherri* (Fallén)

Dipt. Sueciae, suppl.: 13, 1826 (*Sciomyza*); Melander, Ann. Entom. Soc. Amer. 13:316, 1920 (*Melina*, subgenus *Graphomyzina*); Steyskal, Pap. Michigan Acad. Sci. Arts, Letters 33:177, 1949 (*Pherbellia*).

Anchorage, 8 April 1948 (RIS), 9 April 1948 (K. M. Sommerman), 25 May 1948 (E. Lepage), 4 August 1948 (RIS) USNM; Fairbanks, 28 May 1948 (Lienk and Marks) USNM; Healy, 26 June 1921 (JMA) USNM; Lower Yukon River (Fortuna Ledge = Marshall), 1 August 1951 (COB); Matanuska Valley, 24 Sept. 1944, 17 May, 2 Oct. 1944 (JCC) USNM; Matanuska Valley, 10 August 1950, 2, 4 August 1952 (COB); Palmer Highway, mile 16, 14 August 1952 (COB). An abundant holarctic species.

Genus **Pteromicra** Lioy**Pteromicra glabricula** (Fallén)

Dipt. Sueciae, *Sciomyz.*: 15, 1820 (*Sciomyza*); Coquillett, Proc. Washington Acad. Sci. 2:458, 1900 (*Sciomyza*); Hendel, Abhandl. Zool.-Bot. Ges. Wien 2:61, 1902 (*Dichrochira*); Cresson, Trans. Amer. Entom. Soc. 46:40, 1920 (*Dichrochira*); Melander, Ann. Entom. Soc. Amer. 13:312, 1920 (*Pteromicra*).

Popoff Island, 13 July 1899 (Kincaid) USNM. Although widespread in Europe and Siberia, this is apparently the only nearctic record. I have checked the specimen against Hendel's description.

Genus **Sciomyza** (Fallén)

## KEY TO THE KNOWN SPECIES

- 1 (4). Mesopleura with a posterior row of bristly hairs; largely tawny species.
- 2 (3). Center of face polished and blackish; palpi apically blackish; arista densely black-plumose; 1-3 pteropleural bristles (Nearctic) ..... *S. aristalis* Coquillett
- 3 (2). Face white-pruinose and yellow; palpi yellow; arista loosely plumose; usually three pteropleural bristles (Holarctic).....  
..... *S. simplex* Fallén
- 4 (1). Mesopleura bare or with a few small hairs.
- 5 (6). Thoracic dorsum black; palpi black; arista sparsely plumose; wing veins bordered with brown (Nearctic).....  
..... *S. varia* Coquillett
- 6 (5). Thoracic dorsum tawny.
- 7 (8). Third antennal segment blackish; fore tibiae and tarsi blackish only toward tips (Palearctic)..... *S. testacea* Macquart
- 8 (7). Third antennal segment tawny; fore tibiae and tarsi wholly black.
- 9 (10). Thoracic dorsum pruinose, silvery laterally; clypeus matt, narrow; mesopleural suture with a few small hairs; lunule wholly covered (Palearctic and Alaskan).....  
..... *S. dryomyzina* Zetterstedt
- 10 (9). Thoracic dorsum shining, not silvery laterally; clypeus shining, very broad; mesopleural suture entirely bare; lunule somewhat free (Palearctic) ..... *S. lucida* Hendel

**Sciomyza dryomyzina** Zetterstedt

Dipt. Scand. 5:2094, 1846 (*Sciomyza*); Hendel, Abhandl. Zool.-Bot. Ges. Wien 2:55, 102 (*Bischofia*).

Matanuska Valley, 1, 8 July 1950, 25, 27 June, 11, 23 July 1952, 4 ♂♂, 3 ♀♀, Palmer Highway, mile 16, 14 August 1952, ♀ (all COB).

Not previously reported from North America, but widespread in the palaearctic region.

**Sciomyza simplex** Fallén

Dipt. Succiæ. Sciomyz.: 12, 1820; Melander, Ann. Entom. Soc. Amer. 13:312, 1920.

Kotzebue, 20 June 1951, ♀ (RIS) USNM; Matanuska Valley, 27 June, 2 August 1952, 5 ♂♂ (COB). Widespread in the nearctic and palaearctic regions.

Subfamily **TETANOCERINAE**

Genus **Dictya** Meigen

**Dictya umbroides** Curran

Amer. Mus. Novitates, no. 517:4, 1932.

Matanuska Valley, 1, 8 July 1950, 24, 25, 27 June, 2, 11, 23, 24 July, 2 August 1952, 49 ♂♂, 21 ♀♀ (COB). Occurs across North America to Newfoundland, but more abundantly west of Hudson Bay.

Genus **Hedroneura** Hendel

KEY TO THE KNOWN SPECIES

- 1 (2). Mesopleura with at least one bristle near posterior margin; submarginal cell of wing apically with two conspicuous dark spots occupying full width of cell; mesopleura with a roundish brown spot posteriorly; abdomen with lateral row of roundish brown spots (Palaearctic) ..... *H. cucularia* (L.)
- 2 (1). Mesopleura without bristles, with small hairs only, dorsally with a brownish longitudinal stripe.
- 3 (4). Wings with dark spot in submarginal cell at apex of second vein; frontal orbits with very narrow whitish pruinosity; fore femora with well developed ventral bristles (Holarctic) .....  
..... *H. rufa* (Panzer)
- 4 (3). Wings without dark spot at end of second vein; frontal orbits with broader white pruinosity; fore femora usually without distinct bristles beneath ..... *H. divisa* (Loew) (Germany)  
..... *H. rufina* Hendel (Kamtschatka)  
..... *H. connexa* n. sp. (Nearctic)

The last three species form an apparently closely related group. The available descriptions of the first two of the group are inadequate to distinguish them from each other or from *H. connexa*. Little seems to be known of *H. divisa*; Sack's description (1930:60) refers to a considerably paler form than *H. connexa*. Hendel's statement (1932:2) that the "styli" of the single male of *H. rufina* are of "annähernd kreisförmiger Gestalt," rather than apically pointed, and his lack of mention of any vesicles on that part, seem to point to a species distinct from *H. connexa*.

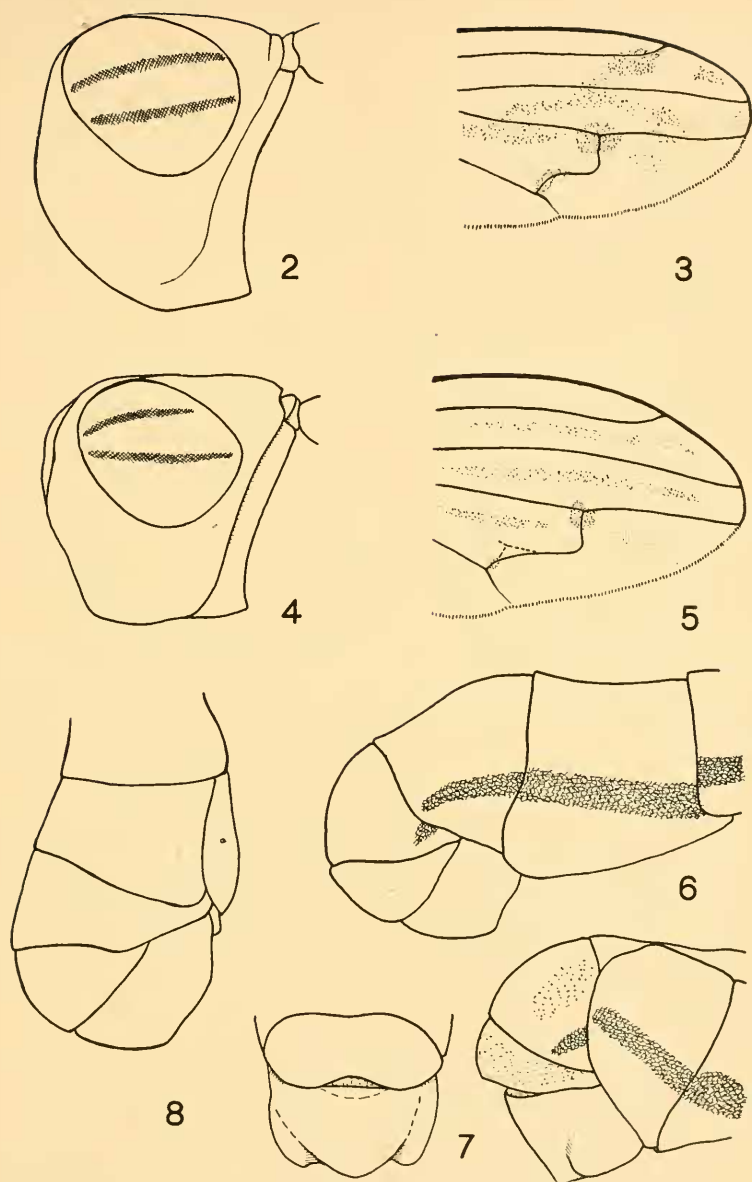


Fig. 2, *Hedroneura rufa* (Panzer), lateral view of head; fig. 3, apical half of wing; fig. 4, *H. connexa*, new species, lateral view of head; fig. 5, apical half of wing; fig. 6, tip of ♂ abdomen (Pingree Park, Colo., with small hypopygial swellings); fig. 7, tip of ♂ abdomen (Matanuska, Alaska, with large hypopygial swellings); fig. 8, *H. rufa*, tip of ♂ abdomen.

**Hedroneura connexa**, new species

(Figs. 4-7, 9)

*Hedroneura connexa* Malloch (nomen nudum), in Knowlton, Harmston, and Stains, 1939, Utah Agric. Expt. Sta. Mimeogr. Ser. 200 (Tech.), pt. 5:12.

*Male*.—Length of wing, 5.2 to 6.5 mm. (average of 12 specimens, 6.0 mm.).

Head as in fig. 4; cheeks 0.65 of eye-height; mid-frontal stripe not wider than ocellar triangle, parallel-sided, practically attaining anterior margin of front; whitish pruinosity of frontal orbits of considerable width, attaining posterior fronto-orbital bristle and reaching halfway to anterior fronto-orbital; eyes before drying olive-green, with two reddish-purple bands; otherwise much as in *H. rufa* (Panzer), chaetotaxy, hairing, color, and pruinosity very similar.

Thorax very similar to that of *H. rufa*; propleura, mesopleura, and pteropleura with scattered small hairs; prosternum with at least a few hairs.

Legs very much as in *H. rufa*; fore femora with a few small bristles apicoventrally, these sometimes distinct, sometimes scarcely distinguishable from adjacent hairs; hind femora with a double ventral row of spiny bristles in apical half or two thirds; hind coxae usually with a few hairs at tip above.

Wings as in fig. 5; yellowish anterad of third vein, elsewhere grayish; anterior crossvein and areas indicated in figure dark gray; posterior crossvein strongly bisinuate or biangulate, sometimes with a "stump-vein" at posterior bend.

Abdomen as in figs. 6, 7, and 9, clayey yellow pruinose, with conspicuous brown lateral stripe; terminal segments robust; hypopygium (ninth tergite) usually with a pair of swellings, one at either side of the para-anal lobes; fifth tergite ventrally with slender, simple processes directed anteromesad, fig. 9c. Terminalia as in fig. 9a, b; compound tergite with long, ventrally curved process on left side; surstyli with conspicuous vesicle posterobasally, attached by a small neck; hypandrium and aedeagus as in fig. 9a, aedeagus asymmetrical and largely composed of thin, membranous tissue.

*Female*.—Length of wing, 5.9 to 7.0 mm. (average of 12 specimens, 6.5 mm.). Similar to male, except abdomen, which is somewhat pointed apically, but like the male has conspicuous lateral brown stripes.

*Types*.—Holotype ♂ and allotype ♀: Matanuska Valley, Alaska, 2 August 1952 (COB), no. 51609 in USNM. Paratypes: ALASKA: same data as types, 2 ♂♂, ♀; same locality, 1 July 1950 (♀), 15 July 1950 (♂), 10 August 1950 (♂, 3 ♀♀), 15 August 1950 (2 ♂♂), 12 June 1951 (3 ♂♂, ♀), 27 June 1952 (♂), 3 July 1952 (♂), 14 August 1952 (14 ♂♂, 10 ♀♀) (all COB) USNM, GCS, COB; same locality, 13 May 1945, rotary trap, ♀ (JCC) USNM; Anchorage, 19 July 1921, ♀



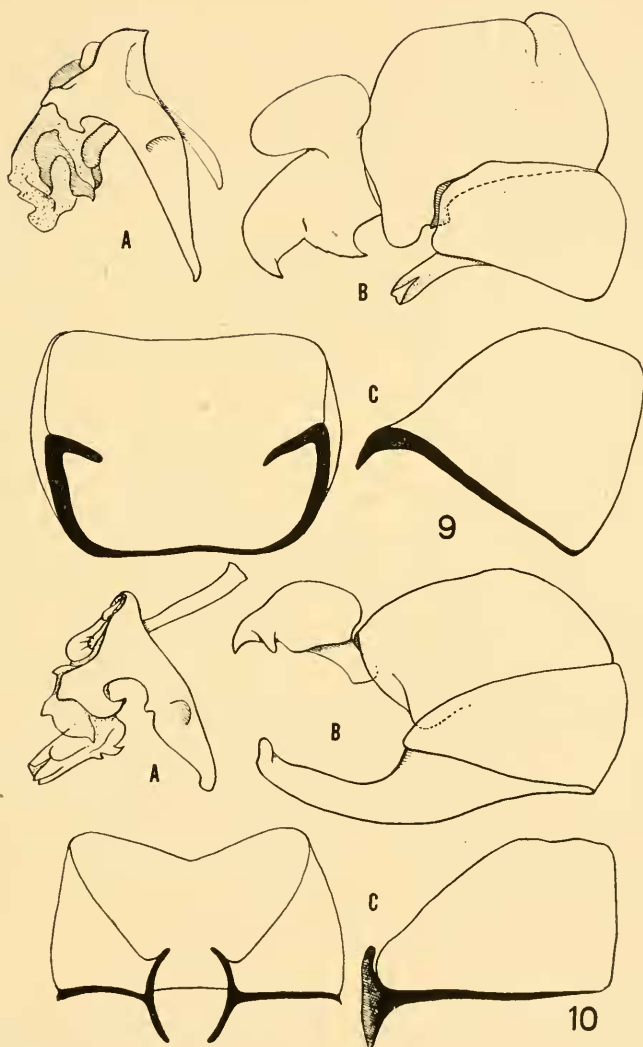


Fig. 9, *Hedroneura connexa*, new species, ♂; fig. 10, *H. rufa* (Panzer), ♂. a, inner copulatory apparatus; b, hypopygium and preceding tergite; c, sixth tergite.



(JMA), 9 May 1948, 3 ♂♂ (F. S. Blanton) USNM; Lower Yukon River (Holy Cross), 25 June 1951 (♀), 3 August 1951 (♂), 4 August 1951 (♂) (COB) USNM; Tanana, 14 June 1951, ♂ (RIS) USNM; YUKON: Rampart House, 28 May 1951, ♀ (C. C. Loan) CNC; NORTHWEST TERRITORIES: Aklavik, 4 August 1930, ♂ (O. Bryant) GCS; Fort Simpson, 25 August 1951; ♂ (DPW) CNC; Reindeer Depot, Mackenzie Delta, 5-6 August 1948, 4 ♂♂, 3 ♀♀ (W. J. Brown) CNC; Tununuk, 15 August 1930, ♂ (O. Bryant) GCS; ALBERTA: Banff, 5, 25, 26 May, 1 June 1922, 5 ♂♂, 2 ♀♀ (C. B. D. Garrett); Nordegg, July 1921, ♂ (J. McDunnough) CNC; SASKATCHEWAN: Great Deer, 8 Sept. 1948, ♂♀ (JRV); Ileburn, 11 Sept. 1948, ♂ (JRV); Saskatoon, 27 Sept. 1948, 2 ♂♂, 2 ♀♀ (JRV), 30 May 1949, ♀ (A. R. Brooks), 21 June 1949, ♂ (L. Konotopetz) CNC; MANITOBA: Aweme, 19 May 1927, ♂ (N. Criddle); Churchill, 28 June 1948, 3 ♂♂, ♀ (G. E. Shewell), 1 Sept. 1948, ♂♀ (R. Richards), 2 Sept. 1948, ♀ (L. A. Miller); Stockton, 25 August 1925, ♂ (R. M. White) CNC; ONTARIO: Moose Factory, 9 June 1949, 2 ♂♂, 3 ♀♀ (DPW), 10 June 1949, 5 ♀♀ (E. J. LeRoux), 11 June 1949, 2 ♀♀ (DPW, D. P. Gray, D. F. Hardwith) CNC; UTAH: Wasatch, 1 Sept. 1937, sex? (Knowlton-Harmston) Utah Agric. Expt. Sta.; COLORADO: "Colorado," 2 ♂♂, USNM; Pingree Park, 14 August 1934, 2 ♂♂, ♀ (C. W. Sabrosky) CWS, 15 August 1934, ♂ (A. E. Pritchard) USNM; Platte Canyon, near Idlewild, 10 June 1927, ♂, 4 ♀♀ (JMA) USNM; Walden; elev. 8500 ft., 1-3 Sept. 1938, ♂ (C. L. Fluke) Univ. of Wisconsin; NEVADA: Steamboat, 3 Sept. 1915, ♀ (H. G. Dyar) USNM.

The foregoing key will serve as a diagnosis of the form, and a more detailed comparison between it and the only other species found in North America, may be made by use of the figures and the notes given under *H. rufa*. The name *connera* is an unpublished manuscript name by J. R. Malloch, who in 1938 kindly furnished me with the specimens listed from the Northwest Territories, collected by Owen Bryant.

#### *Hedroneura rufa* (Panzer)

(Figs. 2, 3, 8, 10)

Faunae Insectorum Germanicae, Heft 54, 1798 (Musca); Cresson, Trans. Amer. Entom. Soc. 46:81, 1920; Melander, Ann. Entom. Soc. Amer. 13:322, 1920; Sack, in Lindner, Die Fliegen d. Pal. Region 5 (lfg. 125):60, 1939 (*Hedroneura*).

Anchorage, 28 May 1948 (N. Hoffman), 14 July 1952 (COB); Holy Cross (Lower Yukon River), 18, 19, 22, 23 (reared), 24, 26 June 1951 (COB); Kotzebue, 24 June 1951 (RIS); Matanuska Valley, 7 May 1944, rotary trap (JCC) USNM, 20-26 June, 15 July 1950, 12 June 1951, 25,

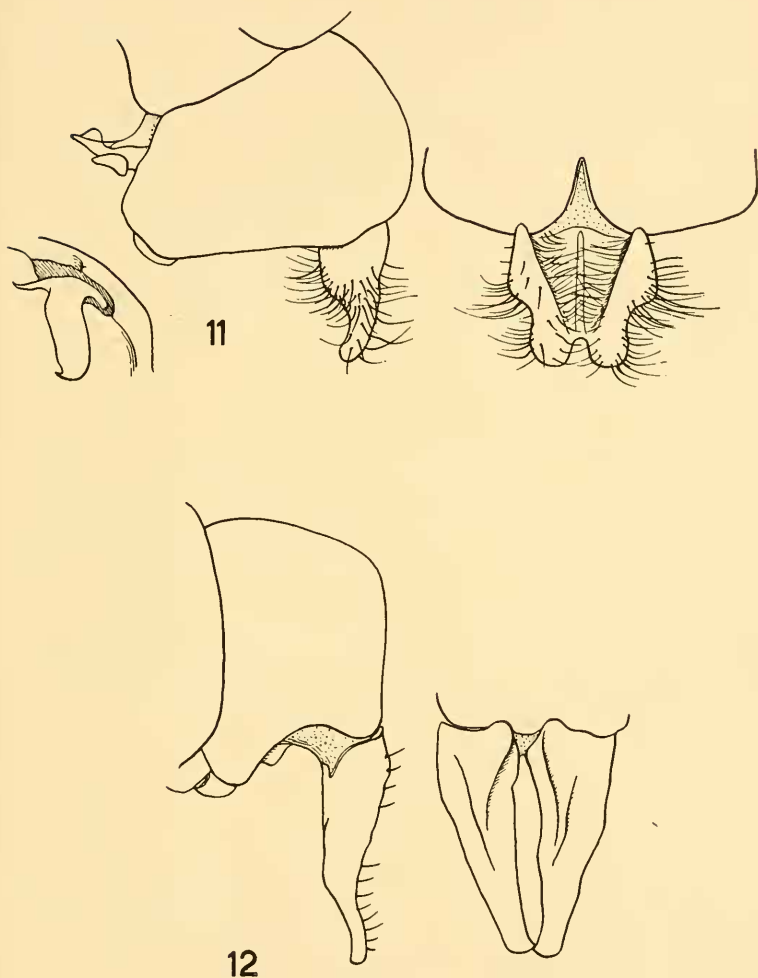


Fig. 11, *Renocera johnsoni* Cresson, ♂ terminalia; fig. 12, *Tetanocera bergi*, new species, ♂ terminalia.

27 June, 1, 11, 15, 17, 19, 22, 23 July, 2 August 1952 (COB); Nenana, 16 June 1951 (RIS) USNM; Tanana, 14 June 1951 (RIS) USNM. Widespread and abundant in the palaearctic and nearctic regions.

I have found European material to be conspecific with North American in all respects, including male terminalia. Since this is the only species

found in North America besides *H. connexa*, figures and the following descriptive notes are given to afford a comparison between *H. rufa* and *H. connexa*.

Head, fig. 2, with cheek nearly as high as eye; midfrontal stripe broader than ocellar triangle, with convex sides; frontal orbits with very narrow white pruinosity. Prosternum bare. Wing pattern, fig. 3, with characteristic arcuate mark in first posterior cell anterior to posterior crossvein and with heavy spot at end of second vein. Fore femora with well developed bristles below. Abdomen with but inconspicuous brownish lateral stripes; the male terminalia, figs. 8 and 10, less robust than in *H. connexa*; fifth tergite ventrally with a pair of opposed curved ridges, like parentheses; compound tergite strongly produced ventrally on left side; hypopygium lacking intumescences; surstyli without vesicles; hypandrium and aedeagus, fig. 10a, quite different in detail from *H. connexa*.

#### Genus *Limnia* Robineau-Desvoidy

##### *Limnia boscii* (Rob.-Desv.), var. *sparsa* (Loew)

Essai sur les Myodaires: 608, 1830 (*Tetanocera boscii*); Loew, Monogr.

Dipt. No. Amer. (Smithsonian Misc. Collns.) 1:117, 1862 (*Tetanocera sparsa*); Cresson, Trans. Amer. Entom. Soc. 46:77, 1920 (*Limnia combinata* var. *sparsa*); Melander, Ann. Entom. Soc. Amer. 13:323, 1920 (*Limnia boscii* var. *sparsa*).

Lower Yukon River (Holy Cross) 2 July 1951; Matanuska Valley, 25, 27 June, 2, 11, 23 July, 2 August 1952 (all COB), total 30 specimens. Distributed across North America. The variety is similar in male terminalia to the typical form and appears to occur throughout the range. All of the Alaskan material, however, is referable to the variety.

#### Genus *Renocera* Hendel

##### *Renocera bergi*, new species

*Female*.—Length of wing, 5.0 to 5.2 mm.

Color brown; midfrontal stripe, lower pleura, apical half of fore tibiae, entire fore tarsi, and apical two segments of middle and hind tarsi blackish. Wings rather evenly tinged with yellowish brown, both crossveins surrounded by heavy blackish infumation, a little of which is also to be seen along ultimate section of third and fourth veins. Broad parafacials and more or less of lateral part of medifacies white pruinose; upper and posterior orbits narrowly white pruinose. Thorax grayish pruinose, with four rather narrow longitudinal brown stripes and broad brown stripe on upper part of pleura. Abdomen and legs subshining.

Head with front somewhat tumid; frontal orbits only slightly convergent anteriorly; midfrontal stripe shining, approximately as wide as distance across posterior ocelli, parallel-sided, extending to anterior margin of front; remainder of front dull tawny; cheek 0.33 to 0.39 as high as eye. Bristles of top of head and bristly hairs of upper occiput long;

ocellars extending to anterior margin of front; one fronto-orbital bristle (duplicated on one side of one specimen; one inner and one outer vertical; two genal bristles. Anterior half of front with rather conspicuous scattered erect hairs. Parafacials with numerous small hairs from oral margin up to midway to antennae. Cheeks with scattered short hairs except close to eyes. Antennae unicolorous brown; third segment 1.5 times as long as wide; arista black, thickened on basal fourth, long pubescent to tip, the pubescence a little longer than diameter of thickest part of arista.

Thorax with long and strong dorsal bristles, as follows: one humeral, two notopleural, one presutural, one supra-alar, two postalar, two dorso-central, one prescutellar, and two scutellar bristles. Pleura bare except for bristly hairs on sternopleura and a few fine hairs on lower propleura. Prosternum with three long bristly hairs and with or without several smaller hairs.

Wings with long basal costal bristle; hind crossvein straight or slightly bowed outwardly; sections of costa from humeral crossvein to tip as 0.7:1:1.5:0.7:0.6. Squamae and halteres yellowish, the former with long yellowish ciliae.

Legs with bristles as follows: fore coxae with two laterals; fore femora in apical half with three dorsal bristles and three somewhat weaker posterior bristles; middle femur with mid-anterior bristle; hind femur with one or two anterodorsal and one or no posterodorsal subapicals; hind tibia with one long preapical. Hind coxae without dorsal hairs and hind femora without ventral bristles.

Abdomen with rather long recumbent black bristly hairs, none of which are stout enough to be called a bristle.

*Types*.—Holotype ♀, Matanuska Valley, Alaska, 11 July 1952 (COB), no. 61790 in USNM; Paratypes: female, one, same data, USNM; one, 23 July 1952, GCS.

Although only females are at hand, this species seems worthy of description since it is the first *Renocera* which I have seen with hairy prosternum. In possessing a humeral bristle, but one fronto-orbital, and dull anterior front, it is apparently related to *R. cyathiformis* Melander, known from a single male from Mount Constitution, Orcas Island, Washington. That species has shining parafacials, front narrowed at antennae to two-thirds the width at ocelli, and hind femora bristly below. These may be sexual differences, but in this genus that does not seem likely.

#### *Renocera johnsoni* Cresson

(Fig. 11)

Trans. Amer. Entom. Soc. 46:53, 1920; Melander, Ann. Entom. Soc. Amer. 13:319, 1920; Curran, Amer. Mus. Novitates, no. 682:9, 1933.

Fairbanks, 1 July 1921, 2 ♂♂, 2 ♀♀ (JMA) USNM; Matanuska Valley, 28 June, 1, 8, 15 July 1950, 12 June 1951, 27 June, 2 August 1952, 8 ♂♂, 6 ♀♀ (COB) USNM, GCS.

The original description cites the holotype from Fort Kent, Maine, and one paratype from Bear Lake, British Columbia. I have seen material from Alberta, Utah, and Colorado. A figure of the hypopygium of a male of the Matanuska Valley material is given to assist in the identification of this form, which is closely related to or even synonymous with *R. quadrilineata* Melander and *R. pacifica* Curran.

Genus **Sepedon** Latreille

**Sepedon borealis** Steyskal

Wasmann Jour. Biol. 8:283, 1950.

Matanuska, 18 May 1945, ♀ (JCC) paratype, USNM, 11, 23 July 1952, 6 spms. (COB); Palmer Highway, mile 16, 14 August 1952, 3 spms. (COB). Occurs across northern North America.

**Sepedon fuscipennis** Loew

Wiener Entom. Monatschrift 3:2109, 1859; Steyskal, Wasmann Jour. Biol. 8:287, 1950.

Matanuska Valley, 5, 9, 11 August 1950, 12 June 1951, 27 June 1952, 14 spms. (COB). Occurs across the continent, south to Texas.

**Sepedon spinipes americana** Steyskal

Wasmann Jour. Biol. 8:277, 1950.

Matanuska, 13 May 1945, ♀ (JCC) USNM; Nenana, 16 June 1951, ♂ (RIS) USNM. Recorded also from Alberta, Ontario, Washington, Oregon, Michigan, and New York. The typical subspecies is widespread in the palaearctic region.

Genus **Tetanocera** Dumeril<sup>1</sup>

**Tetanocera bergi**, new species

(Fig. 12)

*Male*.—Length of wing, 5.5 to 6.0 mm.

Color: Tawny, only apical one or two tarsal segments sometimes blackish; arista dark brown to blackish, with black hairs; thoracic dorsum with two distinct dark brown dorsocentral lines and a pair of less distinct sublateral lines on each side; pleura with broad brown dorsal band; face and cheeks with heavy whitish pruinosity, face sometimes yellowish medially; front uniformly dull yellowish brown, except shining midfrontal stripe and very narrow white pruinosity along orbits; wings yellowish anteriorly, grading to grayish posteriorly, both crossveins conspicuously surrounded by blackish infumation.

Head: Midfrontal stripe narrow and parallel-sided, extending approximately 0.7 of distance to anterior margin; fronto-orbital bristles two,

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<sup>1</sup>It is quite likely that this name is untenable, but since this is hardly the place to discuss this complicated matter, the traditional usage will be maintained.

close together, the anterior one but slightly anterad of anterior ocellus; hairs of anterior middle of front few and shorter than diameter of an ocellus; antennae with second segment half length of third, which is 0.32 mm. wide and 0.44 mm. long; arista 0.9 mm. long, with moderately sparse hairs, the longest of which is 0.16 mm. long.

Thorax: Prosternum without hairs; scutellum convex, projecting slightly beyond insertion of apical bristles, which are farther from each other than from laterals.

Legs: Middle femora lacking posterodorsal preapical bristle.

Wings without stump veins.

Abdomen: Hypopygium as in fig. 12, ventral margins emarginate, but not deeply, anus far basad of surstyli; subgenital plate small, apparently developed only mesally; surstyli slender, with small mediobasal humps, tapering to blunt tips with minute point turned mesally, in lateral view a little bent backwards, setae inconspicuous and short.

Female.—Length of wing, 6.4 to 6.9 mm.; similar to male except in sexual characters.

*Types*.—Holotype ♂ and Allotype ♀, Matanuska Valley, Alaska, 27 June 1952 (COB), no. 61791 in USNM; paratypes: ALASKA, same as types, 2 ♂♂, 3 ♀♀, USNM, GCS; same locality, 1 July 1950, ♂, 2 August 1952, 2 ♂♂ (COB); Auke Bay, 22 May 1952, ♂ (WCF) USNM.

The absence of a posterodorsal preapical bristle on the middle femur, the dull anterior front with parallel-sided mid-frontal stripe, and the lack of stump veins place this form close to *Tetanocera ferruginea* Fallén, from which it may be distinguished by the shorter aristal hairs, shorter and fewer antero-median frontal hairs and the different male terminalia.

#### ***Tetanocera ferruginea* Fallén**

Dipt. Sueciae, Sciomyz.: 9, 1820; Cresson, Trans. Amer. Entom. Soc. 46:65, 1920 (*Chaetomacra*); Melander, Ann. Entom. Soc. Amer. 13: 327, 1920 (*Tetanocera*); Verbeke, Bull. Mus. Roy. Hist. Nat. Belgique 24:20, 1948 (*Tetanocera*).

Synonym.—*Tetanocera huronensis* Steyskal, Occas. Pap. Mus. Zool. Univ. Michigan, no. 386:6, 1938 (new synonymy).

Matanuska Valley, 1, 8, 15 July 1950, 12 June 1951, 27 June, 2, 14 August 1952, 57 spms. (COB). This species has been found to be relatively abundant and widespread in North America. It extends across the continent, south to Oregon, Colorado, South Dakota, Michigan, and New Jersey. I have recently compared European material which reveals the inadequacy of the available figures of the male terminalia, except one by Verbeke (l.e.).

#### ***Tetanocera montana* Day**

Canadian Entom. 13:87, 1881; Melander, Ann. Entom. Soc. Amer. 13:328. Eklutna, 28 July 1951, ♂ (WCF); Matanuska Valley, 2, 14 August 1952, 2 ♂♂ (COB).



A rather scarce species, described from Wyoming, reported from Montana by Melander, and seen by me from the above Alaskan localities, Alberta, Wisconsin, and Michigan.

#### ***Tetanocera nanciae* Brimley**

Entom. News 36:75, 1925; Steyskal, Occas. Pap. Mus. Zool. Univ. Michigan, no. 386:4, 1938.

Anchorage, 11 July 1938, ♀ (G. P. Englehard) USNM; Eagle River, southeast Alaska, 20 July 1952, 3 ♂♂ (WCF); Kadiak, 20 July 1899, ♂, 2 ♀♀ (T. Kincaid); Kukak Bay, 4 July 1899, 3 ♂♂, ♀ (T. Kincaid) USNM; Matanuska Valley, 28 June, 1, 8, 15 July 1950, 27 June, 21, 23 July, 2 August 1952, 37 ♂♂, 18 ♀♀ (COB); Nenana, 28 June 1921, ♀ (JMA) USNM; Valdez, tidal flats, 7 July 1948, ♂ (RIS) USNM. Occurs across North America, extending well southward into the United States.

#### ***Tetanocera phyllophora* Melander**

Ann. Entom. Soc. Amer. 13:330, 1920.

Anchorage, 17 June 1950, ♀ (COB); Fairbanks, 6 July 1948, ♂ (Lienk and Jefferson) USNM; Lower Yukon River (Holy Cross), 16, 19 June 1951, 5 ♂♂, 3 ♀♀ (COB); Matanuska Valley, 10 July 1944, ♂ (JCC) USNM, 25, 27 June, 21 July 1952, 4 ♂♂, 3 ♀♀ (COB). Described from Mount Constitution, Orcas Island, Washington, and seen by me from several localities in Alberta; Lake Abitibi, Ontario; and Isle Royale, Michigan.

#### ***Tetanocera plebeia* Loew**

Monogr. Dipt. No. Amer. (Smithsonian Misc. Collns.) 1:120, 1862; Cresson, Trans. Amer. Entom. Soc. 46:61, 1920 (*Chaetomacera elata* var. *plebeia*); Melander, Ann. Entom. Soc. Amer. 13:326, 1920.

Anchorage, 20 July 1921, ♂ (JMA) USNM; Eagle River, 18 July 1952, ♀ (WCF) USNM; Matanuska Valley, 1, 2 July 1950, 27 June, 11 July 1952, 3 ♂♂, 4 ♀♀ (COB); Nebesna, 13 July 1948, ♂ (RIS); Nushagak, 9 August 1889, ♂ (McKay) USNM. This is likely the most abundant and widespread species of *Tetanocera* in North America, being found across the continent south to New Mexico in the west and to North Carolina in the east.

#### ***Tetanocera plumosa* Loew**

Stettiner Entom. Ztg. 8:201, 1847; Monogr. Dipt. No. Amer. (Smithsonian Misc. Collns.) 1:121, 1862; Coquillett, Proc. Washington Acad. Sci. 2:457, 1900.

Melander and Cresson considered *T. plumosa* synonymous with other species, but examination of the type, from Sitka, Alaska, is necessary. Coquillett recorded material from Yakutat, Virgins Bay, Kukak Bay, and Kadiak, all in Alaska; I have examined most of his material and the records will be found under *T. nanciae* and *T. unicolor*, but I have seen no material from Yakutat.



***Tetanocera robusta* Loew**

Stettiner Entom. Ztg. 8:197, 1847; Frey, Notulae Entom. 4:51, 1924; Séguy, Faune de France 28:280, 1934; Verbeke, Bull. Mus. Roy. Hist. Nat. Belgique 14:22, 1948.

Synonym: *Tetanocera papillifera* Melander, Ann. Entom. Soc. Amer. 13:330, 1920 (*sec. Frey, l.c.*).

Anchorage, 16 mi. NE, 24 June 1948, ♀ (M-S) USNM; Kotzebue, 26 June 1951, ♂ ♀ (RIS) USNM; Lower Yukon River (Holy Cross), 22 June 1951, ♀ (COB); Matanuska Valley, 12 June 1951, 26 (reared), 27 June 1952, 2 ♂ ♂, 5 ♀ ♀ (COB); Savonoski, Naknek Lake, 27 July 1919, ♀ (Basinger) California Acad. Sci. Frey prefaced the synonymy of Melander's species with a ?, but the figures of the male terminalia given by him, Séguy, and Verbeke leave little doubt. The species occurs in North America south to New Mexico and east to Isle Royale, Michigan.

***Tetanocera rotundicornis* Loew**

Berliner Entom. Zts. 5:344, 1861 (Cent. 1, 70); Monogr. Dipt. No. Amer. (Smithsonian Misc. Collus.) 1:123, 1862; Cresson, Trans. Amer. Entom. Soc. 46:61, 1920 (*Chaetomaccra elata* var. *rotundicornis*); Melander, Ann. Entom. Soc. Amer. 13:328, 1920.

Lower Yukon River (Holy Cross), 19 June 1951, ♂ emerged from puparium collected 12 June (COB); Palmer, 11 July 1950, ♂ (RHW) USNM; Palmer Highway, mile 40, 28 June 1950, ♀ (D. A. Sleeper) USNM; Matanuska Valley, 28 June, 1, 8, 15 July 1950, 12 June 1951, 27 June, 11 July, 2, 14 August 1952, 37 ♂ ♂, 36 ♀ ♀ (COB). Occurs across North America, south to Colorado and Pennsylvania.

***Tetanocera silvatica* Meigen**

Syst. Besch. 6:41, 1830; Cresson, Trans. Amer. Entom. Soc. 46:65, 1920 (*Chaetomaccra*); Melander, Ann. Entom. Soc. Amer. 13:326, 1920.

Matanuska Valley, 1, 8 July 1950, 12 June 1951, 24, 27 June, 2, 14 August 1952, 109 spms. (COB); Palmer, 11 July, ♂ (RHW) USNM; Tanana, 7 June 1951, ♂ (RIS) USNM. Widespread in the palaearctic region. Besides the above records, the only North American citation is that published by Cresson from Aweme, Manitoba, which I have checked. I have also seen a couple of specimens from Gull Lake, Alberta.

***Tetanocera triangularis* Loew**

Berliner Entom. Zts. 5:344, 1861 (Cent. 1, 69); Monogr. Dipt. No. Amer. (Smithsonian Misc. Collus.) 1:122, 1862; Cresson, Trans. Amer. Entom. Soc. 46:63 (*Chaetomaccra elata* var. *triangularis*); Melander, Ann. Entom. Soc. Amer. 13:327, 1920.

Matanuska Valley, 8 July, 10 August 1950, 2 August 1952, 5 ♂ ♂, ♀ (COB); Palmer, 11 July 1950, ♂ (RHW) USNM. Melander cited this species from "Alaska." It occurs across North America, well southward in the United States.

**Tetanocera unicolor** Loew

Stettiner Entom. Ztg. 8:199, 1847; Cresson, Trans. Amer. Entom. Soc. 46:59, 1920 (*Chaetomacera*); Melander, Ann. Entom. Soc. Amer. 13:328, 1920.

Anchorage, 16 mi. NE, 24 June 1948, ♀ (M-S) USNM; Eagle River, southeast Alaska, 23 July 1952, ♂ (WCF); Matanuska Valley, 1, 15 July 1950, 24, 25, 27 June, 2, 23 July, 2, 14 August 1952, 99 spms. (COB); Palmer Highway, mile 16, 14 August 1952, 7 ♂♂, 4 ♀♀ (COB); Popoff Island, 9, 16 July 1899, ♂ ♀ (T. Kincaid); Tanana, 14 June 1951, ♂ (RIS); Thane, 1 July 1952, ♀ (WCF); Virgins Bay, 26 June 1899, ♂ (T. Kincaid) USNM. This species is apparently abundant in the palaearctic region and occurs also across North America, south to Iowa.

**Tetanocera vicina** Macquart

Dipt. exot. 2(3):180, 1843; Melander, Ann. Entom. Soc. Amer. 13:328, 1920; Steyskal, Occas. Pap. Mus. Zool. Univ. Michigan, no. 386:4, 1938.

Melander's "Alaska" record, previous to the time when Brimley pointed out that his *T. nanciae* had been confused with *T. vicina*, likely actually refers to Brimley's species (*q.v.*).

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**ACTINOTHRIPS (HYBRIDOTHRIPS) ONEILLAE, NEW  
SUBGENUS AND SPECIES**

(THYSANOPTERA, PHLAEOTHIRIPIDAE)

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When I visited the United States National Museum in December 1952, Miss Kellie O'Neill pointed out to me two unusual thrips specimens of the *Actinothrips* complex. Both specimens were from Central America; one was from Honduras and the other was from San Luis Potosi, Mexico. Apparently they represent a new species which Miss O'Neill has permitted me to describe herein. This species is named in her honor.

At least nine different types are now known in the *Actinothrips* complex. Except for the subgenus *Hybridothrips* described in this paper, each of these types was accorded full generic rank. They were distinguished chiefly by the size of certain setae, which are either enlarged or normal in thickness and length. When plotted such differences show no correlation, that is, if most of the cephalic setae are enlarged it does not necessarily follow that most of the prothoracic setae are enlarged, to cite one example. Most of the characteristics involved are repeated over again in the separate types or groups but in different combinations. Because of this independent scattering of like features between the groups it seems more feasible to me to consider the entities as subgenera and thereby emphatically point out their close relationship.

One of the entities of the *Actinothrips* complex, *Zactinothrips*, was regarded as peculiar because the third and fourth antennal segments bore a number of small sense cones around